To whom it may concern:

I found this discussion draft not too long ago, so unfortunately I was not able to read through the document. However, I wanted share some of my own experiences and opinions with electronic reporting in the northeast region. To give some background on myself and where my viewpoint comes from, I was a NEFOP and IFS observer from Nov 2010 to July 2012 with a little over 200 days at sea, and I have been an editor/debriefer for NEFOP,ASM, and IFS since then. While my input is based on my experiences and feedback from fellow observers in the northeast fisheries observer programs, the following is my own opinion and is not to represent an official opinion or view of NOAA, NMFS, or the Northeast Fisheries Observer Program.

With the start of sector management in the NE multispecies groundfish fishery in FY 2010, the ASM program and it's electronic reporting also began. Initially it was thought that the electronic reporting would allow for paperless reporting, but that idea was later scrapped I think because editors were finding numerous discrepancies between the electronic and the logs and also numerous errors with the weight extrapolations that could only be checked from the logs since the software did not have a way for observers to enter the raw numbers and their math. The numerous discrepancies between the electronic and the logs in my opinion are mainly due to the small size of the ipaq they use, the software and hardware is not very user-friendly when entering data, and as the observer, it is difficult to review the entered data before uploading it to NMFS. Because of the way the software was originally built, some ideas for improvements were just not possible, but even ideas that were doable took a long time to work into the system and were sometimes poorly executed because the observer program had to work through the thinly stretched workforce of DMS.

I don't know exactly when development of software for the toughbooks began. Might have been before or after the ipaqs, but DMS dropped the ball on that and the software was never fully developed for the toughbooks and the project was scrapped. Instead, an emulator was put onto them to run the software for the ipaq on the toughbooks. HP stopped making the ipaqs some time ago, so work was contracted out to have new software developed for the ASM program for the new toughpads. The initial release should only be a few weeks after we receive the hardware, which has been ordered but not delivered for several months now. I have seen the new software and given feedback to the developer on it and also given him some ideas for enhancements.

I am submitting to this discussion draft document because I honestly believe that the ASM program can finally and should transition to paperless reporting once this software is fully developed and that it should be expanded to the other programs in the northeast. The initial release will be pretty bare bones, but even that will be exceptionally better than the current ASM software. However if NMFS continues funding to the contractor so that he can add in enhancements, then the

paper logs will eventually become merely a time consuming burden to both the observers and the editors. Their benefit would only be to act as a backup should the electronic trip become corrupt or lost.

The toughpad has a much larger screen than the old ipaq and the software is much more user-friendly than what is on the old ipaqs. One user issue on the ipaq is the small screen causes there to be small buttons for the digital keyboard, which results in a lot of keystroke mistakes and also incorrect selections from dropdown lists. Also, for selecting a species, the ipaq only generates from its dropdown list species that start with the first letter entered rather than generating all species that includes what is being typed. So in the ipaq, if observer wanted to select four spot flounder, they would enter "f" to jump to the area of the list where names that start with "f" are. Then scroll down to where "flounder" is listed. Then they would have to select "flounder, four spot" with the stylus. The new toughpad will allow narrow the species as they type to all species that has that sequence of letters somewhere in the name. Also, the small size of the ipaq made it difficult to review the species entered for a haul. Only nine species could be shown on the screen at once and only the species name disposition code can be shown, and many species names are too long to show the full species name on the screen. For monkfish, the name was too long to be able to see if tails was at the end of the name, so the observer would not even be able to see if they had selected the correct species name while they checked their entry in the reviewing screen. The observers have to select and open each individual species to see the full name and to see what weight, estimation method, and dressed condition they had entered for the species. As far as I know, nobody checks every species entry. I would review the list to count up the species entry to make sure that the number of species I had recorded in my notepad matched the number listed in the ipaq since it often happened that I had either forgotten to hit save before moving on or else the species just did not save to the file. Also if the observer was entering species for a haul and had to shut down the ipaq because the vessel had started hauling back, the species are only shown in alphabetical order in the ipaq so when the observer goes to finish entering the species, it is often difficult to figure which species they had not already entered into the haul. The new software will have the option for the observer to re-open the haul and have everything listed in the order that they had entered them, so that it will be easier to pick up where they left off. These new features should drastically reduce transcriptional errors and missing data from the electronic data for the ASM program. The ease of the new electronic reporting should be enough that the additional step of transcribing from waterproof notepad to paper logs and then paper logs to electronic may degrade the data with errors more than the benefit the having the paper logs to review yield, especially when you consider the amount of time it takes for the observer to fill out the logs and then for an editor to compare every field in the logs to the electronic submission.

In addition to ease of entering the data the new software has the capabilities of building in new features to make it easier for the observers to review there own data using various tools at any time during their entry process and having warnings

built into the software to make the observer aware of data outside of an expected range. Many of the new features I have suggested to the developer are features already built into the tool that the data editors have in their electronic trip editing software. This includes a table listing all species by haul with all of their info and has check boxes that allow the user to sort the data in various ways. One main benefit of this table is checking that all captain's estimates for species like cod, pollock, and haddock are entered as dressed weights. This is currently a common error for observers because many will forget to mark the check box for dressed while they are entering the data, but then they never review what they had entered for the species. Then several weeks later, the editor calls up the observer to see if an observer remembers whether the captain gave a dressed or round estimate on a particular haul. Most of the time captains only give dressed weights for commonly dressed species, but some will give round estimates if the catch is small enough or depending on if the observer asked the captain for an estimate before or after the crew had dressed the fish. Another useful tool is to map the coordinates so that if a haul is showing them tow into land somewhere like Ithaca, NY, the observer can easily recognize that they had either initially written down the coordinate wrong or had mistyped in the coordinate. Warnings could also be built in for when the calculated speed between coordinates is over an expected range like towing bottom otter trawl at 6 knots or steaming between hauls at 35 knots. There could also be warnings for weight to length relationships. I also believe that observers would be able appreciate the data they collected during the trip more if they are able to look at their data on a broader scale than raw numbers on an individual log. At least I find it rewarding to be able to look at the data I collected and see graphs of the data and trends occurring during the trip.

While features like those I mentioned above could never fully replace the need for a data editor, it could drastically reduce the amount of time they spend debriefing an observer and making changes to the trip, if the observers are able to do some of the checks themselves to catch obvious mistakes and have warnings built into the software to make the observer aware of entries that are outside of an expected range. If warnings were built in though, I think it is necessary to develop a standard review process to monitor the changes an observer makes for trends or to more frequently communicate with captains to make sure that observers are not just changing numbers to fall within range or worse, not actually doing all of the work on deck and only doing enough to make the data realistic while they falsify the data.

The toughpad also has the benefit of having the durability to be allowed to bring out on deck, which the ipaq did not. Other than for maybe day trips, I personally would not enter data out on deck, but it will have features that will make it extremely valuable on deck. One feature all our observers will enjoy is pressing a button and the toughpad will record the date, time, and coordinates for the beginning and end of hauls rather than the observer having to run up to the wheelhouse to record them and then run back down to the deck. This tool and many other potential tools can help free up valuable time for the observer to collect and

process more catch while on deck. So hopefully after the initial release, NMFS will continue to fund the developer so that he may enhance the toughpad from just being a medium for data entry into a tool for the observers and to expand the software to the NEFOP and IFS programs.

Hope this helps,

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